

What is claimed is:

1. A speech communication apparatus comprising:

a voice input device for inputting the voice of a calling party;

a voice output device for outputting the voice of a called party;

signal input/output means for introducing a voice signal of the calling party which has been outputted from the voice input device to a telephone line as well as receiving a voice signal of the called party which arrives through the telephone line;

voice speed conversion means provided between the voice output device and the signal input/output means for changing the time scale of the voice signal of the called party which arrives through the telephone line and the signal input/output means; and

sidetone erasure means provided between the voice speed conversion means and the signal input/output means for erasing a sidetone signal.

2. A speech communication apparatus comprising:

a voice input device for inputting the voice of a calling party;

a voice output device for outputting the voice of a called party;

signal input/output means for introducing a voice signal of the calling party which has been outputted from the voice input device to a telephone line as well as receiving a voice signal of the called party which arrives through the telephone line;

voice speed conversion means provided between the voice output device and the signal input/output means for changing the time scale of the voice signal of the called party which arrives through the telephone line;

sidetone erasure means provided between the voice speed conversion means and said signal input/output means for erasing a sidetone signal; and

means for mixing the voice signal of the calling party which has been outputted from the voice input device with a signal outputted by the voice speed conversion means and introducing a mixture of the signals to the voice output device.

3. The speech communication apparatus according to claim 1, wherein

the sidetone erasure means comprises means for referring to the voice signal of the

calling party which has been outputted from the voice input device to generate a pseudo sidetone signal, and

means for erasing, from a mixture of the voice signal of the called party which arrives through the telephone line and a sidetone signal, the sidetone signal using the pseudo sidetone signal.

4. The speech communication apparatus according to claim 2, wherein

the sidetone erasure means comprises

means for referring to the voice signal of the calling party which has been outputted from the voice input device to generate a pseudo sidetone signal, and

means for erasing, from a mixture of the voice signal of the called party which arrives through the telephone line and a sidetone signal, the sidetone signal using the pseudo sidetone signal.

5. The speech communication apparatus according to claim 1, wherein

the voice speed conversion means changes the time scale of the voice signal of the called party which is inputted through the sidetone erasure means.

6. The speech communication apparatus

according to claim 2, wherein

the voice speed conversion means changes the time scale of the voice signal of the called party which is inputted through the sidetone erasure means.

7. The speech communication apparatus according to claim 1, wherein

the voice speed conversion means expands the time scale of the voice signal of the called party which is inputted through the sidetone erasure means.

8. The speech communication apparatus according to claim 2, wherein

the voice speed conversion means expands the time scale of the voice signal of the called party which is inputted through the sidetone erasure means.

9. In a speech communication apparatus comprising an echo canceller for learning an echo path and optimizing a filter coefficient of an adaptive filter to remove an echo signal and output a telephone receiving signal, and voice speed conversion means for subjecting the telephone receiving signal outputted by the echo canceller to voice speed conversion, the speech communication

apparatus wherein

a voice speed converting operation by the voice speed conversion means is stopped during a predetermined time period.

10. In a speech communication apparatus comprising an echo canceller receiving a telephone transmitting signal as a reference input signal, generating a pseudo echo signal on the basis of the reference input signal, removing an echo signal which arrives by the pseudo echo signal, and outputting a telephone receiving signal, and voice speed conversion means for subjecting the telephone receiving signal inputted through the echo canceller to voice speed conversion and outputting the telephone receiving signal which has been subjected to voice speed conversion, the speech communication apparatus wherein

a voice speed converting operation by the voice speed conversion means is stopped during a predetermined time period.

11. The speech communication apparatus according to claim 9, wherein

the predetermined time period is a time period during which an echo path is learned in the echo canceller.

12. The speech communication apparatus according to claim 10, wherein

the predetermined time period is a time period during which an echo path is learned in the echo canceller.

13. The speech communication apparatus according to claim 9, wherein

the predetermined time period is an initial time period during which speech communication is started.

14. The speech communication apparatus according to claim 10, wherein

the predetermined time period is an initial time period during which speech communication is started.

15. In a speech communication apparatus comprising an echo canceller for learning an echo path and optimizing a filter coefficient of an adaptive filter to remove an echo signal and output a telephone receiving signal, and voice speed conversion means for subjecting the telephone receiving signal outputted by the echo canceller to voice speed conversion, the speech communication apparatus comprising:

means for judging whether or not the echo

signal which cannot be removed by the echo canceller (a removal error signal) is at not less than a predetermined level; and

means for stopping a voice speed converting operation by the voice speed conversion means when the echo signal which cannot be removed by the echo canceller (the removal error signal) is at not less than the predetermined level.

16. In a speech communication apparatus comprising an echo canceller receiving a telephone transmitting signal as a reference input signal, generating a pseudo echo signal on the basis of the reference input signal, removing an echo signal which arrives by the pseudo echo signal, and outputting a telephone receiving signal, and voice speed conversion means for subjecting the telephone receiving signal inputted through the echo canceller to voice speed conversion and outputting the telephone receiving signal which has been subjected to voice speed conversion, the speech communication apparatus comprising:

means for judging whether or not the echo signal which cannot be removed by the echo canceller (a removal error signal) is at not less than a predetermined level; and

means for stopping a voice speed converting operation by the voice speed conversion means when the echo signal which cannot be removed by the echo canceller (the removal error signal) is at not less than the predetermined level.